

ABSTRACT

**ANTENATAL ULTRASOUND AND POSTPARTUM
HISTOPATHOLOGICAL STUDY OF PLACENTA IN HIGH
RISK PREGNANCIES AND ITS CORRELATION WITH
FETAL OUTCOME**

INTRODUCTION:

As the placenta grows and ages, the histological changes suggest an increase in the efficiency of transport to meet the metabolic requirements of growing fetus. Hence any insult to placenta during development stage quantification of the placental changes is essential to correlate the outcome in terms of the fetus. . With the advent of ultrasonography, antenatal evaluation of placenta has become essential in high risk pregnancy as fetal problems and neonatal outcome depend upon the status, growth and abnormalities of placenta.

AIM AND OBJECTIVES:

To find out placental maturational changes (Grading and Thickness) ultrasonographically in high risk pregnancy.

To find out the histopathological changes of placenta in high risk pregnancies including pregnancy induced hypertension, post term pregnancy, Diabetes mellitus complicating pregnancy, preterm pregnancy and pregnancy complicated by antepartum haemorrhage. To correlate above findings with fetal outcome (fetal distress, mode of delivery, birth weight, Apgar at 5 minutes, still births and perinatal deaths). To compare the results of normal and high risk pregnancy groups.

MATERIALS AND METHODS:

Stratified random selection of 50 cases of high risk pregnancy [Hypertension – 10 , preterm labour – 10 cases, diabetes mellitus – 10 , antepartum haemorrhage – 10 and post term pregnancy – 10 and 50 cases of normal pregnancy of gestational age more than 28 weeks.

Ultrasonographic placental study was done [grading according to Grannum's grading system (1979) and thickness measured from site of cord insertion to the margin of the placenta], with in one week prior to delivery.

Placentas from high risk and normal pregnancies were collected and fixed with 1 % formalin. Placental cross sectioning was done through the entire thickness beginning from one to the other margin at 3 to 4 cms distance. 3 bits, one from normal and two from abnormal areas were taken for histopathological examination.

RESULTS AND ANALYSIS:

The present study shows a significant correlation between the histological abnormalities of placenta and fetal outcome. But the pathologic changes in the placenta are not specific to a particular disorder and a variety of disorders may have similar changes. Adverse fetal outcomes are associated with increasing grades of syncitial knots, fibrosis, fibrinoid necrosis and infarction. also when the leukocyte infiltration and calcification are present there is increased percentage of fetal distress, low apgar and still birth.

CONCLUSION:

The ultrasonographic and histopathological study of placenta may suggest the possible pathogenesis due to decreased or compromised uteroplacental function. Early detection, timely intervention and good antenatal care of high risk patients may prevent the adverse fetal outcome and thus reduce the incidence of fetal growth restriction.

KEYWORDS: ultrasound, histopathology, high risk pregnancy, fetal outcome